

## REMARKS

### Claim rejections under 35 U.S.C. 103(a)

Claims 10-14, 16-18, and 36 have been rejected under 35 U.S.C. 103(a) as being unpatentable over AU 9715194 in view of Etnyre (US 4,756,763) in view of Gaw (US 3,960,585).

Claims 20-24, 30, 32, and 35 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Gaw in view of Etnyre.

Claim 33 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Gaw in view of Etnyre and further, in view of Hayner (US 6,133,351).

Claim 34 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Gaw in view of Etnyre and Hayner and further, in view of Burris et al. (US 6,706,787).

Claims 38-45 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Etnyre in view of Gaw as evidenced by Kopvillem et al. (US 3,738,853).

Applicant respectfully traverses the rejections. Reconsideration and withdrawal of the rejections are respectfully requested in view of the remarks.

### Rejection of claims 10-14, 16-18, and 36 over AU 9715194 in view of Etnyre and Gaw

In support of the rejection, the Examiner relies on the references as follows:

- AU9715194 is cited for its teaching that bitumen and aggregate are preferably combined at elevated temperatures;
- Etnyre is cited for its teaching that sulfur may be added to bitumen and aggregate; and
- Gaw is cited for its teachings regarding the use of hydrogen sulfide suppressant.

Applicant respectfully submits that **the rejections and responses to date have failed to address the primary feature of the invention**. In rejecting claim 10, previous Office Actions merely state that “it would be obvious to combine the three references in order to obtain the limitations of the claims. . .” but there is no explanation of why it would be obvious to add pellets comprising sulfur and H<sub>2</sub>S suppressant to an asphalt mix. It is this distinctive method step that Applicant intends to claim.

That feature, which is set out clearly in the specification, relates to the discovery that when the hydrogen sulfide suppressant is added to the sulfur before the sulfur is added to the other asphalt ingredients, superior results are obtained as compared to asphalts that are made using the conventional approach of added the hydrogen sulfide suppressant as an ingredient separate from the sulfur. The present amendment captures this limitation.

Claim 10 has been amended to emphasize this fact, by requiring that pellets comprising sulfur and suppressant be provided. Claim 10 has also been amended to remove the requirement, added by previous amendment, requiring that the pellets be added “in step (iii),” as the present invention is not so limited. Instead, the present invention requires that the hydrogen sulfide suppressant and the sulfur be provided together as pellets.

None of the previous office actions has addressed this limitation explicitly. Applicant hopes that the present amendment will emphasize its importance to the claim scope.<sup>1</sup>

As amended, claim 10 is patentable over the references, as none of the references teaches or suggests adding hydrogen sulfide suppressant and the sulfur together as pellets. If anything, Gaw teaches away from the claimed invention. At col. 2, l. 63 to col. 3, l.7, Gaw states:

It is preferred that the additives according to the invention be added to the asphalt component before it is mixed with the sulfur component. Thus, when pavement compositions containing, for example graded mineral aggregate or sand, are being prepared and the asphalt and aggregate is mixed before the sulfur is added, it is preferred to add the suppressant to the minerals, the asphalt or to the mixture of asphalt and minerals, and to **add the sulfur after the suppressant has been added**. However, though not the preferred sequence of addition, the quantities of hydrogen sulfide emitted can still be significantly reduced by **adding the additive after the sulfur** in the mixing sequence. (emphasis added).

Thus, Gaw teaches adding the suppressant before or after the sulfur, but not with it. If Gaw believed that the suppressant could or should be added with the sulfur, presumably he would have said so in the cited paragraph.

Applicants discovered that by combining the hydrogen sulfide suppressant with the sulfur before mixing those ingredients with the bitumen results in a superior product. This is clearly evidenced by the previously submitted affidavit. There is no requirement that data in an affidavit correspond to the boundaries of the claims. In the present case, the data are not submitted to

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<sup>1</sup> Applicant notes that previous Responses have also referred to making the sulfur pellets at a separate location, or to homogeneity of the resulting product. Applicant would like to place in the record the comment that such arguments are not intended to limit the scope of claims.

support compositional limitations. Rather, the affidavit is submitted as evidence of the surprising reduction of H<sub>2</sub>S generation that occurs when an asphalt is prepared according to the claimed method, as compared to an asphalt prepared according to a method outside the scope of the claims, i.e. a method in which the sulfur and the suppressant are added separately.

For all of the foregoing reasons, Applicant respectfully submits that claim 10 and the claims that depend from it are allowable.

Rejection of Claims 20-24, 30, 32, and 35 as unpatentable over Gaw in view of Etnyre

This rejection falls short for the same reasons as set out above with respect to claim 10. None of the references teaches or suggests combining the suppressant with sulfur and forming a pellet that is apart from the bitumen mixture.

Rejection of Claim 33 as unpatentable over Gaw in view of Etnyre and Hayner

This rejection falls short for the same reasons as set out above with respect to claim 30.

Rejection of Claim 34 over Gaw, Etnyre, Hayner and Burris

This rejection falls short for the same reasons as set out above with respect to claim 30.

Rejections of Claims 38-45 over Etnyre, Gaw, Kopvillem

This rejection falls short for the same reasons as set out above with respect to claim 30.

**CONCLUSION**

Applicant respectfully requests reconsideration and withdrawal of the rejections. Applicant further respectfully requests entry and consideration of the above remarks to advance the above-identified application to allowance. If the Examiner has any questions regarding the present case, the Examiner is respectfully encouraged to telephone the undersigned.

Respectfully submitted,  
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